CLAIMS

I claim:

1. A method for operating a transmitter to transmit a signal at an output power level, comprising:

coupling to an external power meter to receive a first measured output power level of the transmitter;

measuring a second measured output power level of the transmitter with an integrated monitor;

determining a correlation between the first and second measured output power level;

storing the correlation in memory; and

decoupling from the external power meter.

2. The method as in claim 1, further comprising:

determining the output power of the transmitter, based on the correlation.

3. The method as in claim 2, further comprising:

changing the temperature of the transmitter.

4. The method as in claim 2, further comprising:

controlling the output power of the transmitter based on the correlation.

5. The method as in claim 2, wherein the correlation is stored as a lookup table in which

the power measured by the monitor is the index value, and

the corresponding value is the power measured by the external meter.

6. The method as in claim 2, wherein the memory is integrated with the transmitter.

7. The method as in claim 2, wherein the memory is external to the transmitter.

8. A transmitter, comprising:

a light source;

a transmission driver driving the light source;

a monitor integrated with the transmitter that receives light from the light source and generates a power indicator corresponding to the power of the light source; and

a controller that:

controls the transmission driver,

receives the power indicator from the monitor,

receives the power measured by an external power meter,

compares the power indicator from the monitor to the power measured by the external power meter, and

determines the correlation between the power indicator and the power measured.

9. The transmitter as in claim 8, further comprising:

a memory device in communication with the controller, for storing the correlation determined by the controller.

10. The transmitter as in claim 8, wherein the transmitter includes an optical transmitter.

11. The transmitter as in claim 8, further comprising:

a pattern generator in communication with the transmission driver and controlled by the controller, that generates signal patterns to send to the transmission driver.

12. The transmitter as in claim 11, wherein the pattern generator is integrated into a chip with other circuitry in the transmitter.

13. A transmitter for transmitting a signal at an output power level, the transmitter comprising:

a coupler that receives a first measured output power level of the signal;

a monitor that measures a second output power level of the signal;

means for determining a correlation between the first and second measured output levels;

an output power controller that controls the output power level of the signal based on the correlation.

14. A transmitter as in claim 13, wherein the transmitter includes an optical transmitter.

15. A transmitter as in claim 14, wherein the monitor is integrated into the optical transmitter.

16. A transmitter as in claim 15, further comprising:

a memory for storing the correlation, wherein the output power controller is coupled to the memory to receive the stored correlation.

17. A system, comprising:

a transmitter, comprising:

a light source;

a transmission driver driving the light source; and

a monitor integrated with the transmitter that receives light from the light source and generates a power indicator corresponding to the power of light source;

a controller that:

controls the transmission driver,

receives the power indicator from the monitor,

receives the power measured by an external power meter,

compares the power indicator from the monitor to the power measured by the external power meter, and

determines the correlation between the power indicator and the power measured; and

a memory device in communication with the controller, for storing the correlation determined by the controller.

18. The system as in 17, wherein the monitor is integrated with the transmitter.

19. The system as in 17, wherein the memory device is located on a computer that is connected to the transmitter during characterization and programming.

20. The system as in 17, wherein the controller is located on a computer that is connected to the transmitter during characterization and programming.

21. The system as in claim 17, further comprising:

a pattern generator in the transmitter that

generates signal patterns to send to the transmission driver, and

is controlled by the controller.

22. The system as in claim 21, wherein the pattern generator is integrated into a chip with other circuitry in the transmitter.